Effect of cement composition on corrosion of reinforcing steel in concrete.

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Abstract: Results of accelerated corrosion monitoring and exposure site tests show that corrosion of reinforcement in concrete is significantly influenced by the C "SUB 3" A content of the cement. A 9.5% C "SUB 3" A Type I cement, on an average showed 1.73 times better corrosion resistance performance in terms of corrosion initiation time compared to a 2.8% C "SUB 3" A Type V cement. The consistent beneficial effect of the C "SUB 3" A content in cement is shown by the time to initiation of corrosion results on concrete specimens made with four C "SUB 3" A cements of 2, 9, 11 and 14%. The 9, 11 and 14% C "SUB 3" A cements performed respectively 1.75, 1.93 and 2.45 times better than the 2% C "SUB 3" A cement. (A)